

EXHIBIT A  
PENDING CLAIMS  
(4020.000282; NUBI:002--1)

53. (Amended) A liquid-crystalline multimolecular aggregate comprising a plurality of amphiphilic molecules dispersed in an aqueous solution, said amphiphilic molecules comprising a hydrophilic component having at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus of said hydrophilic component.

54. (Amended) A liposome or lipid complex comprising an amphiphilic molecule that comprises a hydrophilic component positioned over at least a portion of the outer surface of said liposome or lipid complex; wherein said hydrophilic component has at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus, wherein said first and second hydrophobic moieties extend into the hydrophobic bilayer of said liposome or lipid complex.

55. (Amended) The liposome or lipid complex of claim 54, wherein said amphiphilic molecule comprises a plurality of hydrophobic moieties that extend into the hydrophobic bilayer of said liposome or lipid complex and wherein said hydrophilic component is positioned over a substantial portion of the outer surface of said liposome or lipid complex.

57. (Amended) A method of making a liposome or lipid complex comprising admixing, in an excess of an aqueous solution, a population of lipid components with a population of prehydrated amphiphilic molecules; wherein said amphiphilic molecules comprise a hydrophilic component having at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus; and wherein said admixing is effective to form said liposome or lipid complex.

58. (Amended) A method of making an amphiphilic material-coated liposome, lipid complex or biological cell, comprising:

- (a) providing a liposome, lipid complex or biological cell; and
- (b) contacting said liposome, lipid complex or biological cell with an amphiphilic material that comprises a hydrophilic component having at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus; wherein said first and second hydrophobic moieties extend into the hydrophobic bilayer of said liposome, lipid

complex or cell and wherein said hydrophilic component is positioned over at least a portion of the surface of said liposome, lipid complex or cell;

thereby forming an amphiphilic material-coated liposome, lipid complex or biological cell.

59. The method of claim 58, wherein said biological cell is a red blood cell.

60. The method of claim 59, wherein said biological cell is a human red blood cell.

61. (Amended) A method of encapsulating or entrapping a selected agent in a liposome or lipid complex, comprising:

- (a) providing a population of liposomes or lipid complexes that comprise an amphiphilic molecule that comprises a hydrophilic component positioned over at least a portion of the outer surface of the liposome or lipid complex; wherein said hydrophilic component has at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus, wherein said first and second hydrophobic moieties extend into the hydrophobic bilayer of the liposome or lipid complex; and
- (b) admixing said selected agent with said population of liposomes or lipid complexes, wherein said admixing is effective to cause encapsulation or entrapment of said selected agent in said liposome or lipid complex.

62. (Amended) A kit comprising, in a suitable container, an amphiphilic molecule comprising a hydrophilic component having at least a first and second terminus and at least a first and second hydrophobic moiety separately attached to, or proximal to, said first and second terminus; or a liposomal formulation comprising said amphiphilic molecule.

63. The kit of claim 62, wherein said kit further comprises a selected agent.

64. (Amended) A cosmetic formulation comprising, in a cosmetically acceptable base, a population of liposomes or lipid complexes that comprise an amphiphilic molecule that comprises a hydrophilic component positioned over at least a portion of the outer surface of the liposome or lipid complex; wherein said hydrophilic component has at least a first and second terminus and wherein at least a first and second hydrophobic moiety is separately attached to, or proximal to, said first and second terminus, said first and second hydrophobic moieties extending into the hydrophobic bilayer of the liposome or lipid complex.

65. (Amended) A medicinal delivery composition comprising, in a pharmaceutically acceptable vehicle, a population of liposomes or lipid complexes comprising a selected agent; wherein said liposomes or lipid complexes comprise an amphiphilic molecule that comprises a hydrophilic component positioned over at least a portion of the outer surface of the liposome or lipid complex; wherein said hydrophilic component has at least a first and second terminus and wherein at least a first and second hydrophobic moiety is separately attached to, or proximal to, said first and second terminus, said first and second hydrophobic moieties extending into the hydrophobic bilayer of the liposome or lipid complex.

66. (Amended) A method for providing a selected agent to an animal, comprising administering to said animal a medicinal delivery composition comprising, in a pharmaceutically acceptable vehicle, a population of liposomes or lipid complexes comprising said selected agent; wherein said liposomes or lipid complexes comprise an amphiphilic molecule that comprises a hydrophilic component positioned over at least a portion of the outer surface of the liposome or lipid complex; wherein said hydrophilic component has at least a first and second terminus and wherein at least a first and second hydrophobic moiety is separately attached to, or proximal to, said first and second terminus, said first and second hydrophobic moieties extending into the hydrophobic bilayer of the liposome or lipid complex.

67. (Amended) The method of claim 66, wherein said selected agent is a nutrient or a nutritional supplement.

68. (Amended) The method of claim 66, wherein said selected agent is an oxygen carrier, haemoglobin, a coagulant or a blood product.

69. The method of claim 66, wherein said selected agent is an antigen, an antibody, an immunological component, a cytokine or an anti-inflammatory agent.

70. The method of claim 66, wherein said selected agent is a chemotherapeutic agent or cytotoxin.

71. (Amended) The method of claim 66, wherein said selected agent is a protein, peptide, enzyme, hormone, growth factor or neurotransmitter.

72. The method of claim 66, wherein said selected agent is an antibiotic, an anti-viral or a fungicide.

73. (Amended) The method of claim 66, wherein said selected agent is an anaesthetic.
74. (Amended) The method of claim 66, wherein said selected agent is a nucleic acid molecule, construct or vector, an antisense nucleic acid or a ribozyme.
75. The method of claim 66, wherein said animal is a human subject.
76. (New) The method of claim 66, wherein said hydrophilic component of said amphiphilic molecule is a substantially linear, a branched, a pendant or a star hydrophilic component.
77. (New) The method of claim 66, wherein said hydrophilic component of said amphiphilic molecule is a hydrophilic component from Table 1.
78. (New) The method of claim 66, wherein at least one of said hydrophobic moieties of said amphiphilic molecule is a hydrophobic moiety from Table 2.
79. (New) The method of claim 66, wherein said amphiphilic molecule is a bipodal amphiphilic molecule comprising a substantially linear hydrophilic component that has a first and second terminus, and wherein a first and second hydrophobic moiety are separately attached at, or substantially at, said first and second terminus.
80. (New) The method of claim 66, wherein said amphiphilic molecule is an oligopodal or polypodal amphiphilic molecule comprising a branched or star hydrophilic component that has a plurality of termini and a plurality of hydrophobic moieties separately attached to each terminus or proximal thereto.
81. (New) The method of claim 66, wherein said selected agent is an agent from Table 3A, Table 3B or Table 4.
82. (New) The method of claim 66, wherein said selected agent is a surfactant.

83. (New) A liquid-crystalline multimolecular aggregate comprising a plurality of amphiphilic molecules dispersed in an aqueous solution, said amphiphilic molecules comprising a hydrophilic component having covalently attached, at spatially distant sites, at least two hydrophobic moieties, wherein the mesophases of said liquid-crystalline multimolecular aggregates, as characterized by X-ray diffraction, include the fluid  $L_{\alpha}$ , gel  $L_{\beta}$  and hexagonal mesophases.

84. (New) A method for providing a selected agent to an animal, comprising administering to said animal a medicinal delivery composition comprising, in a pharmaceutically acceptable vehicle, a population of liquid-crystalline multimolecular aggregates comprising said selected agent; wherein said liquid-crystalline multimolecular aggregates comprising a plurality of amphiphilic molecules that comprise a hydrophilic component having covalently attached, at spatially distant sites, at least two hydrophobic moieties, wherein the mesophases of said liquid-crystalline multimolecular aggregates, as characterized by X-ray diffraction, include the fluid  $L_{\alpha}$ , gel  $L_{\beta}$  and hexagonal mesophases.